

Message Text

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PAGE 01 LONDON 08669 01 OF 03 111143Z

45

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/182 W

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UNCLAS SECTION 01 OF 03 LONDON 08669

E.O. 11652: N/A

TAGS: ENRG, TECH, UK

SUBJECT: HMG WHITE PAPER ON NUCLEAR REACTOR SYSTEMS FOR
ELECTRICITY GENERATION

REF: LONDON 8662

REFTEL REPORTED HIGHLIGHTS OF STATEMENT BY SEC STATE FOR
ENERGY VARLEY BEFORE HOUSE OF COMMONS ON JULY 10. FOLLOW-
ING IS TEXT OF WHITE PAPER RELEASED BY VARLEY:

BEGIN TEXT: NUCLEAR REACTOR SYSTEMS FOR ELECTRICITY
GENERATION.

1. THIS WHITE PAPER SETS OUT THE GOVERNMENT'S POLICY ON
NUCLEAR REACTOR SYSTEMS.
2. THE GOVERNMENT HAVE TAKEN ACCOUNT OF THE REPORT BY
THE SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY (HOUSE OF
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PAGE 02 LONDON 08669 01 OF 03 111143Z

COMMONS PAPER 145 73 I-VII SESSION 1973-74). THIS WHITE

PAPER FORMS THEIR REPLY.

3. THE GOVERNMENT HAVE HAD ADVICE FROM THE NUCLEAR POWER ADVISORY BOARD (NPAB). THE SECRETARY OF STATE FOR ENERGY HAS AGREED WITH THE NPAB THAT THEIR ADVICE SHOULD BE PUBLISHED. THIS WILL BE DONE SHORTLY. THE NPAB'S WORKING PAPERS MUST REMAIN CONFIDENTIAL.

4. THE SECRETARY OF STATE FOR ENERGY HAS HAD WIDE DISCUSSIONS WITH THE ORGANIZATIONS REPRESENTED ON THE NPAB, REACTOR COMPONENT MANUFACTURERS, TRADE UNION AND STAFF ASSOCIATION REPRESENTATIVES AND ORGANISATIONS CONCERNED WITH CONSERVATION AND THE ENVIRONMENT.

NEXT NUCLEAR ORDERS

5. THE GOVERNMENT HAVE DECIDED THAT THE ELECTRICITY BOARDS SHOULD ADOPT THE PRESSURE TUBE STEAM GENERATING HEAVY WATER REACTOR (SGHWR) FOR THEIR NEXT NUCLEAR POWER STATION ORDERS.

6. THE SGHWR OFFERS SUBSTANTIAL ADVANTAGES. IN THE GOVERNMENT'S JUDGMENT IT WILL PROVIDE POWER RELIABLY AND WE CAN PROCEED TO ORDER IT QUICKLY. WE MUST MAINTAIN PUBLIC CONFIDENCE IN NUCLEAR POWER. THE CHIEF INSPECTOR OF NUCLEAR INSTALLATIONS ADVISES THAT THERE SHOULD BE NO FUNDAMENTAL DIFFICULTIES IN GIVING SGHWR SAFETY CLEARANCE. RELIABILITY AND THE CONFIDENCE WE CAN HAVE IN A SYSTEM ARE OF PARTICULAR IMPORTANCE IF WE ARE TO REALISE THE ECONOMIC BENEFITS OF NUCLEAR POWER. SGHWR OFFERS PARTICULAR SCOPE FOR BRITISH NUCLEAR TECHNOLOGY AND WE SHOULD EXPLOIT IT. THE 100 MEGAWATT (MW) PROTOTYPE AT WINFRITH HAS NOW BEEN OPERATING SUCCESSFULLY FOR 6 YEARS AND IS DESIGNED TO REPRODUCE THE OPERATING CONDITIONS OF A COMMERCIAL UNIT. CANADIAN EXPERIENCE WITH THEIR COMMERCIAL HEAVY WATER PRESSURE TUBE SYSTEM - CANDU - IS ALSO SUCCESSFUL AT A REACTOR SIZE OF ABOUT 500 MW.

7. IT IS FOR THESE REASONS THAT THE GOVERNMENT BELIEVE SGHWR IS THE RIGHT SYSTEM FOR THE UK TO PURSUE. WE SHALL BE MOVING FORWARD FROM A PROTOTYPE TO A COMMERCIAL SIZE
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PAGE 03 LONDON 08669 01 OF 03 111143Z

AND DESIGN. WHILE WE ARE GAINING EXPERIENCE, IT THEREFORE SEEM SENSIBLE FOR US TO START WITH REACTOR UNITS OF 600-660 MW RATHER THAN A LARGER SIZE SO AS TO REDUCE THE PROBLEMS OF SCALING-UP; ALSO FOR THE INITIAL PROGRAMME TO BE RELATIVELY MODEST - NOT MORE THAN 4000 MW OVER THE NEXT 4 YEARS. THE GOVERNMENT ARE ASKING THE CENTRAL ELECTRICITY GENERATING BOARD AND THE SCOTTISH BOARDS TO SET PREPARATORY WORK IN HAND JOINTLY. A FIRST ORDER WILL

BE PLACED AS SOON AS POSSIBLE.

8. AFTER THE INITIAL PROGRAMME THE AIM SHOULD BE TO BUILD UP ORDERS AS RAPIDLY AS PROGRESS ALLOWS. FOR THIS WE SHALL NEED TO ESTABLISH A STRONG INDUSTRIAL CAPABILITY. IT IS IMPORTANT THAT INDUSTRY AND THE PEOPLE WORKING IN IT SHOULD HAVE SUFFICIENT CONFIDENCE IN THE DE-

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PAGE 01 LONDON 08669 02 OF 03 111144Z

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/182 W

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P 111126Z JUL 74

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UNCLAS SECTION 02 OF 03 LONDON 08669

VELOPMENT OF THE PROGRAMME TO INVEST IN SKILLS AND FACILITIES. THE INITIAL ORDERS WILL PROVIDE A SOUND BASE FOR THE FUTURE.

COOPERATION WITH CANADA

9. BOTH THE BRITISH AND CANADIAN GOVERNMENTS SEE GREAT ADVANTAGE IN COOPERATION, COVERING THE TECHNOLOGY AND SUPPLY OF HEAVY WATER, REACTOR R & D AND THE DESIGN AND

MANUFACTURE OF COMPONENTS. IN PARTICULAR THE CANADIAN AUTHORITIES HAVE PROVIDED ASSURANCE ON THE SUPPLY OF HEAVY WATER FOR OUR FIRST STATIONS. AT A LATER STAGE WE EXPECT TO CONSTRUCT OUR OWN HEAVY WATER PLANT. UK NUCLEAR ORGANISATIONS AND THE ELECTRICITY BOARDS WILL BE DISCUSSING COOPERATION WITH THEIR CANADIAN COUNTERPARTS AT THE EARLIEST POSSIBLE OPPORTUNITY.

OTHER SYSTEMS

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PAGE 02 LONDON 08669 02 OF 03 111144Z

10. OUR FIRST COMMITMENT TO THE FUTURE MUST BE THE SUCCESS OF SGHWR. ON THE OTHER SYSTEMS THE GOVERNMENT'S POLICY IS AS FOLLOWS:

MAGNOX

11. THE GOVERNMENT ACCEPT THE ADVICE OF THE NPAB THAT MAGNOX, DESPITE ITS GENERALLY GOOD OPERATION, WOULD NOT BE SUITABLE FOR A MAJOR NEW PROGRAMME. THIS COULD DETRACT FROM OUR MAIN EFFORT FOR THE FUTURE.

ADVANCED GAS -COOLED REACTOR (AGR)

12. IT IS ESSENTIAL TO COMPLETE THE AGR PROGRAMME SATISFACTORILY. BUT THE SYSTEM HAS YET TO PROVIDE OPERATING EXPERIENCE TO OFFSET THE PROBLEMS ENCOUNTERED IN CONSTRUCTION. THE GOVERNMENT ACCEPT THE NPAB'S ADVICE THAT IT WOULD BE UNWISE TO PLACE FURTHER ORDERS FOR AGR BEFORE EVIDENCE OF SUCCESSFUL OPERATION.

HIGH TEMPERATURE REACTOR (HTR)

13. THE GOVERNMENT ARE ASKING THE NUCLEAR ORGANISATIONS TO PURSUE FURTHER THE PROSPECTS OF PARTICIPATING IN INTERNATIONAL DEVELOPMENT OF HTR. THE SYSTEM HAS CONSIDERABLE POTENTIAL. OUR EXPERIENCE OF GAS-COOLED TECHNOLOGY WOULD BE OF GREAT VALUE TO ITS INTERNATIONAL DEVELOPMENT. BUT HTR IS NOT SUITABLE FOR THE ELECTRICITY BOARD'S MAIN PROGRAMMES AT THIS TIME. FURTHER, THE GOVERNMENT ACCEPT THE ADVICE OF THE NPAB THAT WE DO NOT HAVE THE RESOURCES FOR A SUBSTANTIAL EFFORT ON HTR, WHILE WE ARE LAUNCHING SGHWR AND COMPLETING THE AGRS. IN PARTICULAR AN IMMEDIATE DEMONSTRATION ORDER IS NOT PRACTICABLE. PARTICIPATION IN AN INTERNATIONAL PROGRAMME COULD LEAD TO ORDERS IN THE UK IN THE FUTURE IF WE SO WISH.

LIGHT WATER REACTOR (LWR)

14. THE GOVERNMENT HAVE DECIDED AGAINST ANY COMMITMENT TO LWR. IN MAKING THIS DECISION THEY HAVE CAREFULLY CONSIDERED THE MERITS OF LWR. THEIR CHOICE OF SGHWR FOR OUR NEXT NUCLEAR POWER STATION ORDERS DOES NOT IMPLY ANY JUDGMENT ABOUT THE VALIDITY OF THE TECHNICAL DOUBTS EXPRESSED BY SOME ON SAFETY OF LWRS. THE GOVERNMENT HAVE

ASKED THE NUCLEAR INSTALLATIONS INSPECTORATE TO CARRY
THROUGH TO CONCLUSIONS THEIR EXAMINATION OF THE GENERIC
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PAGE 03 LONDON 08669 02 OF 03 111144Z

SAFETY ISSUES.

FAST REACTOR

15. THE GOVERNMENT WILL MAINTAIN OUR EFFORT ON THE FAST
REACTOR ON WHICH WE ARE IN THE FOREFRONT OF TECHNOLOGY.
THE 250 MW PROTOTYPE AT DOUNREAY IS NOW BEING BROUGHT TO
FULL POWER. THE GOVERNMENT ARE ASKING THE NUCLEAR ORGAN-
ISATIONS TO PURSUE URGENTLY THE PROSPECTS FOR FURTHER
INTERNATIONAL COOPERATION, COVERING DEVELOPMENT AND THE
START OF COMMERCIAL ORDERING. WORK ON SAFETY WILL BE
PARTICULARLY IMPORTANT.

FOSSIL PLANT ORDERS

16. THE PRESENT DECISION WILL DICTATE THE PATTERN OF
NUCLEAR AND FOSSIL PLANT ORDERING OVER THE NEXT 3-4 YEARS.
FOR REASONS OF PRUDENCE WE MUST LIMIT THE INITIAL PRO-
GRAMME OF SGHWR AND SHALL NEED TO MEET THE BALANCE OF OUR
FURTHER REQUIREMENTS DURING THIS PERIOD WITH NEW FOSSIL
PLANT. BUT WE ARE FORTUNATELY PLACED WITH MAJOR FOSSIL
RESERVES. THE GOVERNMENT WILL TAKE DECISIONS ON THE
CAPITAL INVESTMENT FOR NEW FOSSIL STATIONS PROGRESSIVELY,
DEPENDING ON LOAD GROWTH.

17. IN THE LATER 1970S OUR NUCLEAR OPTIONS SHOULD WIDEN.
WE SHOULD IN PARTICULAR BE ABLE TO STEP UP THE SGHWR

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PAGE 01 LONDON 08669 03 OF 03 111142Z

45

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/182 W

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P 111126Z JUL 74

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UNCLAS SECTION 03 OF 03 LONDON 08669

PROGRAMME GIVEN SATISFACTORY INITIAL EXPERIENCE OF CONSTRUCTION.

ENVIRONMENTAL CONSIDERATIONS

18. PUBLIC CONFIDENCE IN NUCLEAR POWER WILL DEPEND NOT ONLY ON THE SAFETY OF THE SYSTEMS WE BUILD. THE SITING OF NUCLEAR POWER STATIONS IS VERY IMPORTANT; SO IS THE MANAGEMENT OF RADIOACTIVE WASTES. WE SHALL KEEP VERY CAREFUL WATCH OVER THE ENVIRONMENTAL IMPLICATIONS OF RADIOACTIVE WASTES. THE ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION ARE EXAMINING THESE AND RELATED ISSUES. THE GOVERNMENT WILL CONSIDER WITH CARE ANY RECOMMENDATIONS THEY MAKE.

19. THE GOVERNMENT INSPECTORATES CONCERNED AT PRESENT BELIEVE IT UNLIKELY THAT THE ACCUMULATION AND STORAGE OF WASTES NEED RESTRAIN OUR PLANNED NUCLEAR POWER PROGRAMME.
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PAGE 02 LONDON 08669 03 OF 03 111142Z

IMPLEMENTING POLICY

20. THE GOVERNMENT ARE DISCUSSING WITH THE ELECTRICITY BOARDS AND THE NUCLEAR INDUSTRY THE DETAILED IMPLEMENTATION OF THEIR POLICY.

21. DISCUSSIONS ON REACTOR POLICY HAVE BEEN PROLONGED. STRONG VIEWS AND POSITIONS HAVE BEEN DEVELOPED AND SOME BELIEVE SINCERELY THAT A DIFFERENT DECISION SHOULD HAVE BEEN MADE. BUT THE PERIOD OF UNCERTAINTY IS NOW OVER. THE GOVERNMENT'S DECISION OFFERS THE PROSPECTS OF A FURTHER - PUBLICLY ACCEPTABLE - DEVELOPMENT OF NUCLEAR POWER IN THE UK. THEY HOPE THAT ALL CONCERNED WILL WORK

TOGETHER TO MAKE A SUCCESS OF OUR NUCLEAR PROGRAMME.
END TEXT.

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